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Analysis of axisymmetric instability in polymer melt electrospinning jet

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## Highlights

- Electrospinning of polymer melt is analyzed for stability under non-isothermal conditions.
- The axisymmetric instability is examined to comprehend the onset of bead formation.
- Surface tension driven capillary mode drives instability under weak electric field.
- Jet can be stabilized by convective heat transfer to the surrounding.
- Role of rheology change upon cooling can be exploited to suppress bead formation

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